

## Application



The general purpose ultrasonic level transmitter provides continuous level measurement up to 18.0' (5.5m) with a 4-20 mA signal output, and is configured via our free Webcal software. The level sensor has 4 programmable relays with selectable hysteresis and fail-safe logic. The embedded level controller can lower cost by replacing external control hardware. This non-contact liquid level sensor is ideally suited for corrosive, sticky or dirty liquids, and is widely selected for day tank, skid, IBC, sump and process tank level applications.



## Features

- ✓ Level detection, switch and control functions up to 18.0' (5.5m)
- ✓ Configuration is fast and easy via WebCal software and USB adapter
- ✓ Narrow 3" beam width and short 8" dead band optimized for small tanks
- ✓ Four programmable relays for switch, pump or valve control and fail-safety
  - 1 pump or valve with 3 alarms
  - 2 pumps (lead-lag) with 2 alarms
  - 2 pumps (duplexing) with 2 alarms
  - 4 independent switch point alarms
- ✓ PVDF transducer and 6P polycarbonate enclosure for corrosive liquids
- ✓ Automatic temperature compensation for accurate measurement

## Success



About 1.3M polyethylene tanks are sold in North America each year ranging in size from 1 to 15,000 gallons. Most of these are less than 6' in height with capacities under 500 gallons. The largest markets are industrial manufacturing, municipal, agriculture and residential in chemical, water & wastewater applications. Over the past 10 years, customers have moved toward the use of smaller storage tanks with increased automation to lower cost. Today, mini-bulk tanks are a major product category. Flowline has developed a new multi-function sensor to meet the needs of this growing market. The DL34 EchoPod puts non-contact level measurement, relay switch and advanced control functions in the palm of your hand.

## Compatible Products

### DataLoop™ Level Indicator



**LI25**

### DataView™ Level Controller



**LI55**

### Commander™ Multi-Tank Level Controller



**LI90**

### DataPoint™ Level Controller

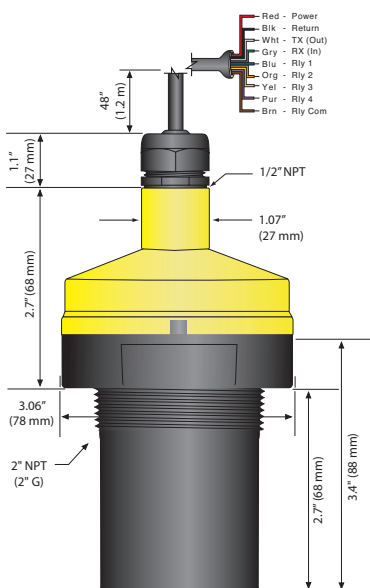


**LC52**

## Specifications

|                    |  |
|--------------------|--|
| Range:             | 18.0' (5.5m)   |
| Accuracy:          | ± 0.2% of range  |
| Resolution:        | 0.079" (2mm)   |
| Dead band:         | 8" (20cm)  |
| Beam width:        | 3" (7.62cm)  |
| Configuration:     | WebCal® PC   |
|                    | Windows® USB 2.0   |
| Memory:            | Non-volatile   |
| Supply voltage:    | 24 VDC (loop)  |
| Consumption:       | 0.5W   |
| Loop resist.:      | 400Ω max   |
| Signal output:     | 4-20 mA, two-wire  |
| Signal invert:     | 4-20 mA or 20-4 mA   |
| Signal fail-safe:  | 4 mA, 20 mA, 21 mA,<br>22 mA or hold last                      |
| Contact type:      | (4) SPST relays  |
| Contact rating:    | 60 VA, 1A maximum  |
| Contact fail-safe: | Power loss: Hold last  |
|                    | Echo loss: Open, close<br>or hold last                         |
| Hysteresis:        | Selectable   |
| Process temp.:     | F: 20° to 140°<br>C: -7° to 60°                                |
| Temp. comp.:       | Automatic  |
| Ambient temp.:     | F: -31° to 140°<br>C: -35° to 60°                              |
| Pressure:          | MWP = 30 PSI (2 bar)   |
| Enclosure rating:  | Type 6P, encapsulated,<br>corrosion resistant &<br>submersible |
| Encl. material:    | Polycarbonate  |
| Trans. material:   | PVDF   |
| Cable jacket mat:  | Polyurethane   |
| Cable type:        | 9-conductor, shielded  |
| Cable length:      | 48" (1.2m)   |
| Process mount:     | 2" NPT (2" G)  |
| Mount gasket:      | Viton®   |
| Classification:    | General purpose  |
| Compliance:        | CE, RoHS   |
| Approvals:         | cFMus  |

## Dimensions



## Configuration



LI99-1001

The level sensor is configurable via our free WebCal PC software and Fob USB adapter. The sensors are offered with and without Fobs. Fobs are universal and can be used to configure any WebCal compatible product.



Download your free copy of WebCal in English or Chinese at [www.flowline.com/webcal.php](http://www.flowline.com/webcal.php).

## Fittings

For optimum performance, install the level sensor using the below recommended or direct equivalent fittings.

|   | P/N       | Description                   |
|---|-----------|-------------------------------|
|  | LM52-2400 | 3" NPT x 2" NPT (Sch. 40)     |
|   | LM52-2800 | 3" NPT x 2" NPT (Sch. 80)     |
|   | LM52-3800 | 4" NPT x 2" NPT (Sch. 80)     |
|  | LM52-2410 | 3" Socket x 2" NPT (Sch. 40)  |
|   | LM52-3410 | 4" Socket x 2" NPT (Sch. 40)  |
|   | LM52-2810 | 3" Socket x 2" NPT (Sch. 80)  |
|   | LM52-3810 | 4" Socket x 2" NPT (Sch. 80)  |
|  | LM52-2890 | 2" NPT Bulkhead Fitting, PVC  |
|  | LM50-1001 | 2" NPT Bracket, Polypropylene |

## Ordering

|                            |             |   |   |
|----------------------------|-------------|---|---|
| <b>DL34-</b>               |             |  |  |
| <b>Process mount (1)</b>   |             |   |   |
| 0                          | NPT (US)    |   |   |
| 1                          | G (Metric)  |   |   |
| <b>Fob USB adapter (2)</b> |             |   |   |
| 0                          | Without Fob |   |   |
| 1                          | With Fob    |   |   |

### Notes

- 1) Install the level sensor using Flowline installation fittings or equivalents.
- 2) The level sensor is configured via our WebCal software and one LI99-1001 Fob USB adapter. The level sensor is offered with and without a Fob. Fobs are universal and can be used to configure any WebCal compatible product. WebCal is a free download from our website at [www.flowline.com/webcal.php](http://www.flowline.com/webcal.php).